

Advanced Photon Source

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Unreviewed Safety Issue Determination Policy and Procedure

Changes made in this revision:

- Reformatted procedure per APS template.
- Changed “SUF” to “PSC” throughout procedure.
- Updated throughout to indicate that for a question to be a USI it must be of a significant increase in probability OR of significant consequence.
- Deleted question 7 in Section 4.5
- The description of a Unreviewed Safety Issue (USI) has been replaced with the DOE definition of a USI, specifying that the “safety analysis” is “the [APS SAD](#) safety analysis”. The definition has been moved to the head of the policy and the USI description in the procedure scope has been replaced with a reference to a USI.

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Table of Contents

Definition.....	3
Summary	3
POLICY	3
PROCEDURE.....	4
1 Introduction.....	4
1.1 Purpose.....	4
1.2 Scope	4
1.3 Applicability	4
2 Preparation - Prerequisite Actions.....	4
3 Acceptance Criteria	4
4 Procedure Action Steps - Performance	4
4.1 Addressed in existing safety analysis?.....	4
4.2 Continue to safety evaluation?	5
4.3 Safety evaluation.....	5
4.4 Continue to determine if there is a USI?.....	5
4.5 Determination if there is a USI	5
4.6 Reporting/recording Determination.....	6
5 Post-Performance Activities	6
5.1 Safety Analysis Inadequacies	6
6 References - Source Requirements	6
7 Feedback and Improvement.....	7

Unreviewed Safety Issue Determination Policy and Procedure

Definition

An Unreviewed Safety Issue (USI) exists if a proposed change, modification, or experiment will either:

1. Significantly increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety from that evaluated previously by the [APS Safety Assessment Document](#) (SAD) safety analysis; or,
2. Introduce an accident or malfunction of a different type than any evaluated previously by the [APS SAD](#) safety analysis that could result in significant consequences.

Summary

If a USI may exist then it shall be reported to and reviewed by APS safety personnel. The APS will initiate a process to resolve identified inadequacies according to the defined procedure.

POLICY

When a potential USI has been identified, a documented unreviewed safety issue determination (USID) shall be performed. The determination process is initiated by notifying the PSC-ESH/QA Coordinator, in writing, of the potential inadequacies of the current safety analysis and the technical aspects of the potential USI. The PSC-ESH/QA Coordinator, or designee, will answer a series of questions that will determine if there is indeed a USI. The PSC-ESH/QA Coordinator submits the USID for approval/disapproval by an APS Division Director.

If there is a USI, according to DOE standards and the following procedure, then the APS will initiate a process to resolve the inadequacies.

PROCEDURE

1 Introduction

1.1 Purpose

This procedure describes how to determine if there is a USI at the APS and the steps to take to resolve the safety analysis inadequacies.

1.2 Scope

This procedure describes the process to determine if a USI exists.

This procedure does not provide the detailed technical standards for the evaluation and resolution of a USI and only describes the steps the APS will take to identify and resolve potential inadequacies.

1.3 Applicability

This process will be followed for USIs identified at the APS.

2 Preparation - Prerequisite Actions

When there is the potential for a USI, it is reported in writing to the PSC-ESH/QA Coordinator, initiating a USID.

3 Acceptance Criteria

Each USID shall be approved by the PSC-ESH/QA Coordinator and an APS Division Director.

4 Procedure Action Steps - Performance

4.1 Addressed in existing safety analysis?

The PSC-ESH/QA Coordinator, or designee, shall evaluate if the change or test falls into any of the three categories below:

1. Temporary or permanent changes in the facility are not as described in the existing safety analyses;
2. Temporary or permanent changes in the procedures are not as described in existing safety analyses; or
3. Test or experiments are not as described in existing safety analyses.

4.2 Continue to safety evaluation?

If the change or test falls into any of the three categories described in [section 4.1](#), then a safety evaluation described in [sections 4.3](#) shall be performed by the PSC-ESH/QA Coordinator.

or

If the change or test does not fall into one of the three categories, the PSC-ESH/QA Coordinator skips to [section 4.6](#).

4.3 Safety evaluation

1. The probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the facility safety analyses could be significantly increased;
2. The possibility for a significant accident or malfunction of a different type than any evaluated previously in the facility safety analyses could be created; or
3. Any margin of safety as defined on the bases of the accelerator safety envelope could be significantly reduced.

4.4 Continue to determine if there is a USI?

If the change or test falls into one of these categories described in [section 4.3](#), then the PSC-ESH/QA Coordinator will answer the questions in [section 4.5](#) to determine if there is a USI.

or

If the change or test does not fall into one of the three categories, the PSC-ESH/QA Coordinator skips to [section 4.6](#).

4.5 Determination if there is a USI

The PSC-ESH/QA Coordinator shall continue the determination by answering the six questions listed below. The USID shall provide a discussion of the technical merits of the situation being evaluated and will answer each of the six questions individually:

1. Could the proposed activity significantly increase the probability of occurrence of an accident previously evaluated in the safety analyses?
2. Could the proposed activity significantly increase the consequences of an accident previously evaluated in the safety analyses?
3. Could the proposed activity significantly increase the probability of occurrence of a malfunction of equipment important to safety previously evaluated in the safety analyses?

4. Could the proposed activity significantly increase the consequences of a malfunction of equipment important to safety previously evaluated in the safety analyses?
5. Could the proposed activity create the possibility of a significant accident of a different type than any previously evaluated in the safety analyses?
6. Could the proposed activity create the possibility of a significant malfunction of equipment important to safety of a different type than any previously evaluated in the safety analyses?

If the answer to any or these questions is yes, the change or test is considered a USI.

4.6 Reporting/recording Determination

1. The PSC-ESH/QA Coordinator documents the USID and forwards a copy to an APS Division Director,
2. The APS Division Director will review and notify the PSC-ESH/QA Coordinator of the approval or disapproval the findings,
3. The PSC-ESH/QA Coordinator will notify the PSC-ALD of the findings, and
4. The PSC-ESH/QA Coordinator will record the USID in the APS central document management system.

5 Post-Performance Activities

5.1 Safety Analysis Inadequacies

If a USI has been identified:

If information that indicates a potential inadequacy of previous safety analyses or a possible reduction in the margin of safety, as defined in the SAD, is identified, then APS management will:

1. Notify the DOE of the situation upon discovery of the information;
2. Make an evaluation in accordance with DOE Orders;
3. Take action to place the facility in a safe condition until the safety evaluation is completed; and
4. Submit the completed safety evaluation prior to removing any operational restrictions initiated pursuant to item 2 above.

6 References - Source Requirements

1. [DOE Order 420.2B](#), Safety of Accelerator Facilities
2. [APS Safety Assessment Document](#)

7 Feedback and Improvement

If you are using this procedure and have comments or suggested improvements for it, please go to the [APS Policies and Procedures Comment Form](#)* to submit your input to a Procedure Administrator. If you are reviewing this procedure in workflow, your input must be entered in the comment box when you approve or reject the procedure.

* http://www.aps.anl.gov/Internal/Policies_and_Procedures/comment_form.php